

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A charge transfer device comprising:

a transfer channel; and

plural pairs of two-layered transfer electrodes arranged along a transfer direction of the transfer channel, wherein two-phase driving pulses are applied to the plural pairs of two-layered transfer electrodes, and the transfer channel below a paired two-layered transfer electrode disposed at the last portion in the transfer direction has a first area, a second area which is provided downstream of the first area in the transfer direction and has a deeper potential level than the first area, and a third area which is provided downstream of the second area in the transfer direction and has a deeper potential level than the second area; and

wherein the first area, the second area, and the third area are each located beneath a final group of two-layered transfer electrodes, and there is less transfer channel area beneath the final group of two-layered transfer electrodes than located beneath the other groups of two-layered transfer electrodes. and

~~wherein the first area, the second area and the third area are each located directly beneath a final group of two layered transfer electrodes.~~

2. (Previously Presented) The charge transfer device as claimed in claim 1, further comprising transfer electrodes which are independently provided directly above the first area, the second area and the third area.

3. (Original) The charge transfer device as claimed in claim 2, wherein common driving pulses are applied to the independently-provided transfer electrodes.

4. (Original) The charge transfer device as claimed in claim 1, wherein commonly provided transfer electrodes are provided above the second area and the third area.

5. (Original) The charge transfer device as claimed in claim 4, wherein common driving pulses are applied to the transfer electrodes provided above the first area and the commonly provided transfer electrode.

6. (Previously Presented) The charge transfer device as claimed in claim 1, wherein the transfer channel has at the last portion in the transfer direction an area which is gradually tapered at the downstream side, and at least the third area is disposed so as to overlap the gradually-tapered area.

7. (Currently Amended) A solid-state image pickup device comprising:

an image pickup portion which contains plural photosensors and converts input light to electrical signals by the plural photosensors;

a transfer channel for transferring the charges photoelectrically converted in the image pickup portion; and

plural pairs of two-layered transfer electrodes arranged along a transfer direction of the transfer channel, wherein two-phase driving pulses are applied to the plural pairs of two-layered transfer electrodes, and the transfer channel below a paired two-layered transfer electrode disposed at the last portion in the transfer direction has a first area, a second area which is provided downstream of the first area in the transfer direction and has a deeper potential level than the first area, and a third area which is provided downstream of the second area in the transfer direction and has a deeper potential level than the second area; and

wherein the first area, the second area, and the third area are each located beneath a final group of two-layered transfer electrodes, and there is less transfer channel area beneath the final group of two-layered transfer electrodes than located beneath the other groups of two-layered transfer electrodes. and

~~wherein the first area, the second area and the third area are each located directly beneath a final group of two-layered transfer electrodes.~~